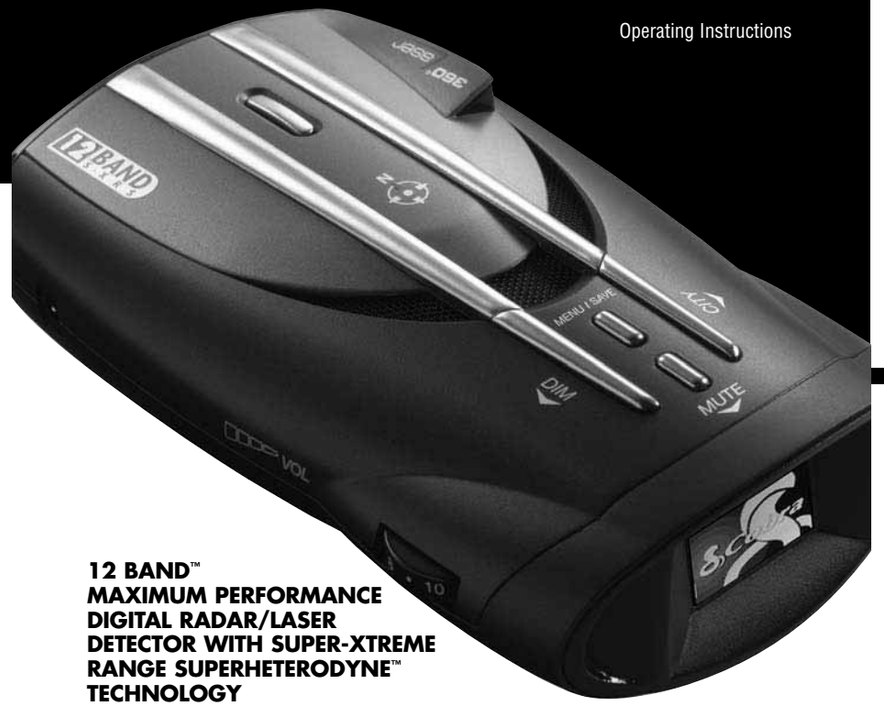
Cobra®

12 BAND S-X R S

Operating Instructions



12 BAND™ MAXIMUM PERFORMANCE DIGITAL RADAR/LASER DETECTOR WITH SUPER-XTREME RANGE SUPERHETERODYNE™ TECHNOLOGY

XRS 9940

Printed in China
Part No. 480-422-P
Version C

The Cobra line of quality products includes:

- **CB Radios**
- **microTALK® Radios**
- **Radar/Laser Detectors**
- **Safety Alert® Traffic Warning Systems**
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Important Information and Customer Assistance

Important Information

Federal Laws Governing the Use of Radar Detectors

It is not against federal law to receive radar transmissions with your Cobra radar/laser detector. The Communications Act of 1924 guarantees your right to receive radio transmissions on any frequency. Local laws that contravene this Act, while illegal, may be enforced by your local law enforcement officials until and unless they are prohibited from doing so by federal court action.

Safety Alert

Use of this product is not intended to, and does not, ensure that motorists or passengers will not be involved in traffic accidents. It is only intended to alert the motorist that an emergency vehicle equipped with a Cobra Safety Alert transmitter is within range as defined by that product. Please call local fire and police departments to learn if coverage exists in your area.

Safe Driving

Motorists, as well as operators of emergency or service vehicles, are expected to exercise all due caution while using this product, and to obey all applicable traffic laws.

Security of Your Vehicle

Before leaving your vehicle, always remember to conceal your radar detector in order to reduce the possibility of break-in and theft.

Customer Assistance

Should you encounter any problems with this product, or not understand its many features, please refer to this owner's manual. If you require further assistance after reading this manual, Cobra Electronics offers the following customer assistance services:

For Assistance in the U.S.A.

Automated Help Desk English only. 24 hours a day, 7 days a week 773-889-3087 (phone).

Customer Assistance Operators English and Spanish. 8:00 a.m. to 6:00 p.m. Central Time Mon. through Fri. (except holidays) 773-889-3087 (phone).

Questions English and Spanish. Faxes can be received at 773-622-2269 (fax).

Technical Assistance English only. www.cobra.com (on-line: Frequently Asked Questions). English and Spanish. product info@cobra.com (e-mail).

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Chicago, Illinois 60707 USA
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Controls, Indicators, Connections and Display

Windshield Bracket Release Button
Windshield Bracket Mounting Slot
12V DC Power Jack
LaserEye
For 360° detection of laser and strobe signals.
Auxiliary Audio Jack
Speaker
Menu/Save Button
Press once to enter Program mode. Press again to save settings.
On-Off/Volume Control
Allows user to adjust the volume of the tone and voice alerts.
Dim ◀ Button
Adjusts the display brightness. In Menu mode, steps backward through settings.
Mute ▼ Button
For manual mute of audio alerts. In menu mode, steps down through options for the selected setting.
City ▶ Button
Switches between Highway and City modes. In Menu mode, steps forward through settings.
Cobra
12 BAND
DIM
MUTE

ExtremeBright DataGrafix™ Display
Full color and sunlight-readable, the extremely bright display provides intuitive graphical interaction and alert screens.

Product Features

Congratulations! You've made a smart choice by purchasing an ultra high performance digital radar/laser detector from Cobra. Just look at some of the sophisticated features and capabilities your new unit includes:

Super-Xtreme Range Superheterodyne Technology
With super-fast sweep circuitry, S-XRS provides maximum detection range and the best possible advance warning to even the fastest radar guns

Maximum Performance
Provides advanced warning with maximum detection range for total protection

Detection and Separate Alerts
For radar signals (X, K, Ka and Ku bands, with signal strength indicated), laser signals, Safety Alert signals, Strobe Alert signals, VG-2 signals, Spectre 1 signals

8-Point Compass
Displays direction of travel

LaserEye
For 360° detection of laser and strobe signals

Instant-On Ready
Detects radar guns with "instant-on" (very fast) speed monitoring capabilities

Pop Detection
Detects the latest super-fast radar guns of the instant-on or single-pulse type

Voice or Tone Alert
With adjustable volume

ExtremeBright DataGrafix™ Display
With easy-to-read graphical user interface

IntelliShield False Signal Rejection
Reduces falsing in urban areas with Highway mode and three levels of City mode settings

Safety Alert
Traffic warning system distinguishes important safety alerts from other K band signals

Strobe Alert
Emergency vehicle warning system

Manual Mute or Auto Mute
A mute function of audio alerts

IntelliMute
A mute function which automatically reduces false alerts by sensing engine RPMs

SmartPower
A timed power saving function that saves your car's battery

EasySet Programming
User-friendly mode selection and setting with visual guidance

Car Battery Voltage Display
Car battery voltage can be shown continuously on the display

Car Battery Low Voltage Warning
Provides an alert when the car battery voltage drops below 11.9 volts

Customizable Display Colors
Customize the display colors to match your dash illumination

Auxiliary Audio Jack
For external speaker connection

Mounting
Mounts easily on windshield or dashboard

WARNING
Modifications or parts substitutions not approved by Cobra Electronics Corporation may violate FCC Rules and void your authority to operate this equipment.

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Item #	Description
420-030-N-001	Straight 12V Power Cord
420-026-N-001	Coiled 12V Power Cord
545-159-N-001	Windshield Mounting Bracket
CLP-2B	Dual Port Power Adapter

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Overview

This manual describes the simple steps for mounting, setting up and using your detector. It also provides helpful information about how radar and laser guns are used and how you can interpret the alerts you receive.

Before you begin your installation, please read the Important Information section on page A1 and use the descriptions and feature lists on pages A2 and A3 to become familiar with your new detector.

About Your Detector

Display

This detector's innovative new display provides more, easier-to-use information than any technology to date. Using an OLED (Organic Light Emitting Diode) screen, the display offers large graphical alerts to signals as they are detected.

Do not be alarmed by the nearly blank display you see when you first turn the unit on. The detector will function and alerts will appear as signals are detected. You can also elect to turn on the built-in Compass, IntelliMute and Car Voltage, so that they appear during normal operation. The initial and startup screens are shown on page 6.

Programming

EasySet Programming lets you conveniently customize the operation of your detector by changing the settings. You may want to start using the detector with the factory settings and then make changes after you are more familiar with the unit.

About This Manual

Please take a moment to learn about some special features of this manual.

Modular Descriptions

Once the detector is in use, this manual can be used as a ready reference to individual topics as needed. Each topic is completely covered in its section and cross-references to related topics are included where appropriate.

Appendix

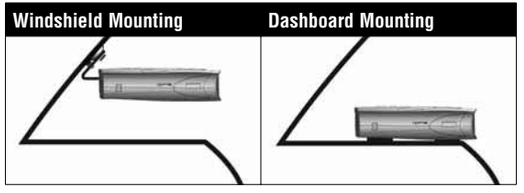
The appendix pages 34–36 provide quick reference charts on the programming features of your detector.

Installation

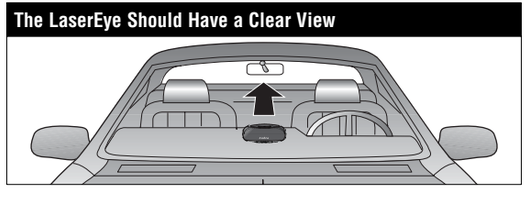
Installation

Where to Mount Your Unit

You will get optimum performance from your detector if you mount it at a point approximately in the center of the vehicle, as low as possible on the front windshield without obstructing the unit's view of the road either to the front or rear. You can also mount it directly on the dashboard.



The unit's lens must not be blocked and the LaserEye should have a clear view out the back window to allow 360° detection.



Radar and laser signals pass through glass but not through other materials and objects. Objects that can block or weaken incoming signals include:

- Windshield wiper blades
- Mirrored sun screens
- Dark tinting at the top of the windshield
- Heated windshields currently available on some vehicles (Instaclear for Ford, Electriclear for GM). Consult your dealer to see if you have this option.

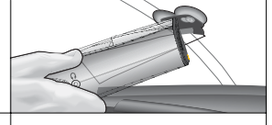
Windshield Mounting

1. Attach the rubber cups to the bracket.

2. Make sure the rubber cups and your windshield are clean.

3. Push the bracket firmly onto the windshield.

4. Attach the detector to the bracket. Check that the unit is parallel to the road's surface.



5. To adjust the angle if necessary, gently push or pull on the bracket to bend it. DO NOT use the detector to bend the bracket.

6. Plug the power cord into the detector.

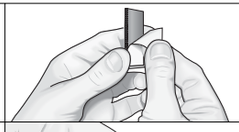
7. Plug the cigarette lighter adapter on the power cord into your vehicle's cigarette lighter.

8. You can temporarily remove the detector whenever you wish by depressing the bracket release button and sliding it off the bracket.

Dashboard Mounting

1. Place the detector on the dashboard to find a location where the unit has a clear view of the road and is parallel to the road's surface. The angle CANNOT be adjusted after mounting.

2. Remove the paper backing from one side of the hook-and-loop fastener.



3. Attach the pad to the dashboard at your chosen location and remove the other paper backing.

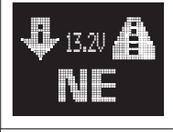
4. Attach the detector to the hook-and-loop fastener. You can remove and reattach the unit as often as you like.

5. Plug the power cord into the detector.

6. Plug the cigarette lighter adapter on the power cord into your vehicle's cigarette lighter.

Power On/Off

To Turn on the Unit and Adjust the Audio Volume

	Tone	Visual Display	Voice
Rotate the **On-Off/Volume** control clockwise (away from you). Unit will cycle through Power On / Self Test and display the Standby screen when complete. Standby screen will show City or Highway icon. Car Battery Voltage, Compass, and IntelliMute will also show if turned on (see note).	**Testing,** then three beeps		**Testing,** then three beeps **System Ready**
	None		**Voice Alert**
Display changes to Display Timeout after 30 seconds (factory default).	**None**	■	**None**

NOTE
When the system is first turned on from new, only the City or Highway icon will show on the screen because the Show Compass, IntelliMute and Show Car Battery Voltage functions are set to off at the factory. See pages 14, 16 and 19 to turn these functions on.

NOTE
In some vehicles, power is supplied to the cigarette lighter even while the ignition is off. If this is the case with your vehicle and you have turned the SmartPower off, you should turn off or unplug your detector when parking for lengthy periods. Cobra recommends leaving SmartPower at the factory setting, which is on. See page 18.

Standby Screen Icons

Your detector uses the following icons to indicate modes and functions when set:

City Mode

Highway Mode

Compass

Battery Voltage

IntelliMute Above Activation Point

IntelliMute Below Activation Point

User and Alert Settings

Sample Screen

NOTE
For example, the sample screen indicates that IntelliMute is active, the Compass is calibrated, your system is set to Highway mode and your vehicle's battery voltage is charged to 13.8 volts.

Display Brightness Control

Your detector has a **Bright** display mode (for daytime driving) and three levels of the **Dim** display mode:

- **Dim** for dusk driving.
- **Dimmer** for night driving.
- **Dark** to prevent all visual alerts from displaying.

The factory setting is Dim. This level can be changed in programming mode (see page 10.)

You can toggle between Bright and Dim modes by pressing the **Dim ◂** button.

NOTE
At the dark setting the display will show a small dot moving back and forth toward the bottom of the screen to indicate the unit is turned on.

NOTE
When you change to Dim mode, the unit will enter whichever dim default mode is set at the time.

Display Timeout Mode

Your detector has a **Display Timeout** mode to prolong the life of your screen. Touch any button to exit Display Timeout and recall the Standby screen.

The factory default is for Display Timeout to engage from the Standby screen after 30 seconds. You can change the time interval or deactivate Display Timeout in programming mode (see page 10).

NOTE
In Display Timeout mode, the display will show a small dot moving slowly back and forth to indicate the unit is turned on.

IntelliShield Highway/City Modes

Your detector is equipped with IntelliShield false signal rejection technology which consists of a **Highway** mode and three different levels of **City** modes: City X, City X Beep Off and City X+K.

Highway mode provides full response to all signals detected. The City modes reduce false alerts while you are driving in or near urban areas where there are many sources for conflicting X or K band signals such as microwave towers and automatic door openers. The factory setting is Highway. The factory City mode default setting is City X; it can be changed in programming mode (see page 11).

You can toggle between Highway and City modes by pressing the **City ▸** button.

NOTE
When you change to City mode, the unit will enter whichever city default mode is set at the time.

Muting an Alert

Your detector allows you to quickly turn off an **Audio Alert** by momentarily pressing the Mute ▾ button. If you press the **Mute ▾** button a second time during the alert, the Audio Alert will be turned back on. After the current alert is gone, the next alert will be heard.

Two other features are incorporated in your detector to automatically mute or reduce the volume of alerts. See pages 14 and 16 for Intellimute and Auto Mute modes.

Auxiliary Audio Jack

The **Auxiliary Audio Jack** can be used to connect external speakers in environments with high ambient noise levels. The internal speaker will be disconnected. (This uses a mini stereo audio connector.)

EasySet Programming

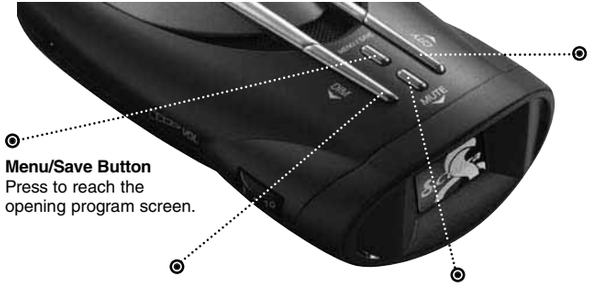
EasySet Programming gives you quick and easy access to all the settings on your detector. It is used to program both:

- User Settings (see pages 14 and 15)
  User Programming Menu Guide (see pages 34 and 35).
- Alert Settings (see page 20)
  Alert Programming Menu Guide (see page 36).

Refer also to the Program Flow Diagrams for User Settings and Alert Settings programming to easily navigate to the setting you want to change (see pages 12 and 13). All settings are stored in memory when the power is turned off and will be recalled when the power is turned back on.

NOTE
You cannot enter Program mode during an alert. The unit will not detect signals while in Program mode. During programming, if no buttons are pressed for 15 seconds, the unit will automatically exit Program mode and save the most recent settings.

EasySet Programming Buttons:



City ▶ Button
Press to move to desired setting.

Menu/Save Button
Press to reach the opening program screen.

Dim ◀ Button
Press to move to desired setting.

Mute ▼ Button
Press to choose an option within the setting.

To use EasySet program mode:

1. Press the **Menu/Save** button to reach the opening program screen.
2. Choose whether you want to change:
   a. User Settings — press the **Dim ◀** button to enter the User Setting loop (see page 12)
   b. Alert Settings — press the **City ▶** button to enter the Alert Setting loop (see page 13)
3. Press the **City ▶** or **Dim ◀** buttons to step forward or backward through the chosen settings loop until the desired option is reached.

NOTE
Press and release the button to move one option.

4. Press the **Mute ▼** button to toggle the option on or off or to step through its multiple choices.
5. Repeat steps 3 and 4 to move to and set the next desired option(s).
6. Press the **Menu/Save** button when finished to save the settings and exit EasySet program mode. Or, simply wait 15 seconds without pressing any buttons.

NOTE
If power is turned off while in Program mode, option settings are saved to those in effect before Program mode was entered.

User Settings Programming

User Programming allows you to adjust the unit's display and sounds to your preferences. The **User Settings** can be selected using the **Dim** ◀ and **City** ▶ buttons by scrolling through the settings as shown in the program flow diagram below. The User Programming Menu Guide on page 34 is a handy reference showing the tone, visual display and voice prompts that accompany each setting. After selecting a setting, use the **Mute** ▼ button to choose an option within the setting.

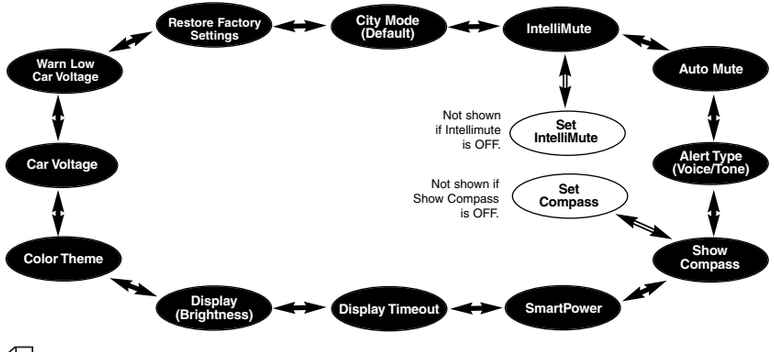
NOTE
When you choose User Settings (page 11, step 2a), the system displays whichever setting was last changed.

Setting Selection Buttons:

City ▶ Button
Press to move to desired setting.

Dim ◀ Button
Press to move to desired setting..

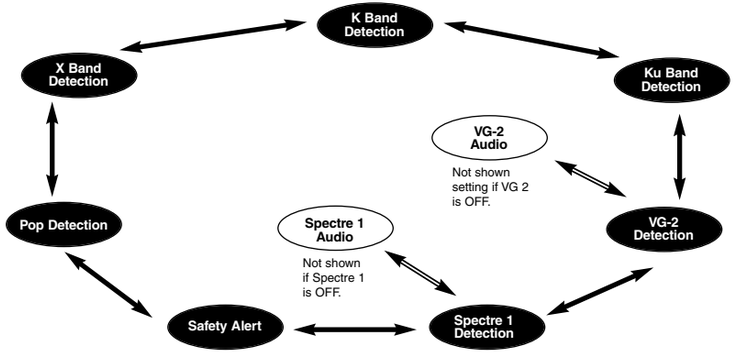
Mute ▼ Button
Press to choose an option within the setting.



Alert Settings Programming

Alert Programming allows you to selectively turn on or off detection of some signals. The **Alert Settings** can be selected using the **Dim** ◀ and **City** ▶ buttons by scrolling through the settings as shown in the program flow diagram below. The Alert Programming Menu Guide on page 36 is a handy reference showing the tone, visual display and voice prompts that accompany each setting. After selecting a setting, use the **Mute** ▼ button to choose an option within the setting.

NOTE
When you choose Alert Settings (page 11, Step 2b), the system displays whichever setting was last changed.



This detector allows you to customize its operation by changing settings in the User Programming and the Alert Programming modes. (See page 11 for entering the EasySet Programming mode.) Also, refer to the Appendix (pages 34–36) while programming. These show the lists of User and Alert settings.

Features of the programmable settings are described on the following pages.

User Settings

IntelliShield City Mode Default

City Mode Default makes three levels of **Audio Alert** suppression available when you toggle from **Highway** to **City** mode (see page 8). The factory setting is City X.

City X sounds a single beep when an x band signal is first detected. The alert then sounds when signal strength reaches level 3.

City X+K combines the City X mode with prevention of K band audio alerts until the signal strength reaches level 2.

City X Beep Off blocks all X band audio alerts until the signal strength reaches level 3.

IntelliMute Mode

IntelliMute is a unique feature that allows you to avoid alerts you don't need to hear because you are stopped or moving slowly. By sensing the "revs" (RPMs) of your engine, IntelliMute knows when you are at low speed and automatically mutes alerts (except for strobe signals from emergency vehicles). It works with all City and Auto Mute modes.

Before IntelliMute will work, you must set an activation point for your engine's revs (see page 15). Whenever the revs are below that point, IntelliMute will begin muting. The activation point will be stored in memory and recalled each time the power is turned on. The factory setting is IntelliMute off.

An IntelliMute icon will appear in the display when IntelliMute is on and activation is set. Whenever engine revs are below the activation point, the arrow points down. When revs are above the activation point the arrow points up.

Above Activation Point

Below Activation Point

If, for any reason, the unit stops sensing your engine's revs, IntelliMute will indicate an error and automatically turn off.

NOTES
IntelliMute may not work with some vehicles because it cannot sense the engine's revs. In such cases, you can reduce unwanted audio alerts by using Auto Mute and City mode when appropriate.

NOTES
The rev point must be reset if you use your detector in a different vehicle.

NOTES
When initially choosing your IntelliMute activation point, a setting of approximately 300 to 600 RPMs above idle is recommended. You can reset the activation point at any time to fit your individual preferences and driving style.

CAUTION
Do not attempt to set the rev point while driving. Your vehicle should be parked and idling to avoid a collision during the process.

Set IntelliMute

After the detector is installed in your vehicle and the unit is turned on, advance through the User Settings Programming to the **Set IntelliMute** setup screen where the activation point can be set.

Setting the activation point progresses from the setup screen shown on the User Programming Menu Guide (see page 34). From that screen:

1. Press the **Mute** ▼ button to begin the setting process.
2. Press and hold the vehicle accelerator at the desired engine RPMs.
3. Press the **Mute** ▼ button to complete the setting process.

The system will store the engine RPM setting and provide a completion message on the display as well as a tone or voice message.

NOTE
If the unit is unable to sense usable pulses within three seconds or if you do not set a rev point within 30 seconds of beginning the setup, IntelliMute will indicate an error. If you do not try again within five seconds, it will automatically turn off. The unit will provide corresponding messages for these conditions.

Once an activation point has been set, you can easily change it by going directly to Set IntelliMute in User Settings Programming and repeating the three-step setup process.

Auto Mute Mode

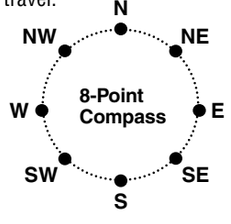
When **Auto Mute** is on, it automatically reduces the audio volume of all alerts after they have sounded for four seconds. The signals will remain muted for as long as the signal is detected. When Auto Mute is off, the alerts will sound at full volume for as long as the signal is detected. The factory setting for Auto Mute is on.

Voice or Tone Mode

You can set your detector to sound alerts and confirm program settings with either a **Voice** or a **Tone** Alert. Voice Alert provides voice messages in addition to tones. Tone Alert provides tones only. The factory setting is Voice Alert.

Compass Mode

Your detector includes an internal 8-point **Compass** that can continuously display your current direction of travel: N, NE, E, SE, S, SW, W, or NW.



Before the Compass will work, it must be calibrated (see page 17). Calibration allows the Compass electronics to measure and store information about the magnetic fields generated by your vehicle so direction indications will be accurate. The factory setting is Compass off.

A Compass icon and directional heading will appear in the display when the Compass is on and calibrated.

The Compass will remain accurately calibrated as long as your detector is mounted in the same place in your vehicle. If you change the location where the unit is mounted or move it to another vehicle, you must recalibrate the Compass. You should also recalibrate the Compass if you suspect it is providing inaccurate directions.

The Compass temporarily may not provide accurate readings if you are inside a building or enclosure, or are close to a large metal tractor/trailer, truck, or train. Once you are away from such a location, the Compass will work correctly again.

Set Compass

After the detector is installed in your vehicle and Compass is turned on (see page 34), the system will automatically advance to the Set Compass calibration screen from which the calibration can be performed.

WARNING
Before calibrating the Compass, go to a large parking lot or other safe, low-traffic area.

NOTE
When the instructions direct you to drive in two circles, make two complete loops (in either direction) from any starting orientation at any convenient speed. The loops need not be perfect and can be circles, small squares, four three-point turns, or any pattern that makes at least two complete turns within two minutes of starting the maneuver.

Calibrating the Compass progresses from the Calibrate Compass screen shown on the User Programming Menu Guide (see page 34). From that screen:

1. Press the **Mute** ▼ button to advance to the Compass screen.
2. Drive your vehicle in two circles.
3. Press the **Mute** ▼ button to complete the setting process.

The system will store the calibration data and provide a completion message on the display as well as a tone or voice message.

NOTE
If you do not press the **Mute** ▼ button within two minutes after beginning the Set Compass process, Compass calibration will automatically terminate. The unit will provide a corresponding message.

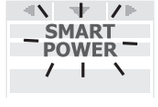
Once the initial calibration is complete, you can go to Set Compass in User Settings Programming and recalibrate the Compass as needed by repeating the three-step calibration process.

SmartPower Mode

Your detector includes the **SmartPower** feature that, when turned on, will put the unit into Standby mode (low power) 15 minutes after the car's engine has been turned off.

Before SmartPower enters Standby mode, you will hear three beeps and SmartPower will flash on the display. To return the unit to normal Power mode and exit Standby mode, start the car, press any button or turn the unit off and then on again. The factory setting is SmartPower on.

SmartPower Entering Standby Mode (Flashing)



Display Timeout

Display timeout determines how long the Standby screen is illuminated before switching the unit to Dark. The factory default is 30 seconds.

You can set the time interval to 15 seconds, 30 seconds, one minute, three minutes, or Always On (see User Settings Programming described on page 12).

Dim Mode Default (Display Brightness)

You can set the default level for the **Dim** mode (Dim, Dimmer or Dark) as discussed in the Display Brightness Control section on page 7. The factory setting is Dim.

Customizable Display Colors

Your detector includes the **Color Theme** feature that allows you to customize the display screen color scheme to match your car's dash illumination: Multi-Color, Red, Blue, Orange, or Green. The factory setting is Multi-Color.

Car Battery Voltage Display Mode

Your detector can sense your vehicle's electrical system voltage (**Car Battery Voltage**) and show it on the display during normal operation of the unit. The factory setting is Car Battery Voltage on.

Car Battery Low Voltage Warning

In addition to displaying system voltage, your detector can provide a warning that battery voltage is low so that timely steps can be taken to correct the problem. The **Car Battery Low** alert is triggered when the voltage drops below 11.9 volts. Following the alert, the unit enters SmartPower mode to avoid further draining your car battery (see page 18). The factory setting is Car Battery Low off.

Restore Factory Settings

From the **Restore Factory Settings** screen, you can quickly and conveniently restore your detector to its original settings. Confirmation messages are provided during the process.

Alert Settings

Pop Alert

When **Pop Detect** mode is on, Pop radar signals will be detected and an alert will be given. During the alert, the unit will continue to detect other signals. The factory setting is Pop Detect off.

X Band Alert

When **X Band Detect** mode is on, X Band radar signals will be detected and an alert will be given. During the alert, the unit will continue to detect other signals. The factory setting is X Band Detect on.

K Band Alert

When **K Band Detect** mode is on, K Band radar signals will be detected and an alert will be given. During the alert, the unit will continue to detect other signals. The factory setting is K Band Detect on.

Ku Band Alert

When **Ku Band Detect** mode is on, Ku Band radar signals will be detected and an alert will be given. During the alert, the unit will continue to detect other signals. The factory setting is Ku Band Detect off.

VG-2 Alert

The detector is undetectable by VG-2 detection devices and can alert you when such a device is in use near your vehicle. When **VG-2 Detect** mode is on, VG-2 signals will be detected and an alert will be given. During the alert, the unit will continue to detect other signals. The factory setting is VG-2 Detect off.

VG-2 Audio Mode

When **VG-2 Audio** mode is on, alerts will be sounded as well as being displayed on the screen. This setting is only available if VG-2 Alert is on. The factory setting is VG-2 Audio off.

Spectre 1 Alert

The detector is undetectable by Spectre 1 detection devices and can alert you when such a device is in use near your vehicle. When **Spectre 1 Detect** mode is on, Spectre 1 signals will be detected and an alert will be given. During the alert, the unit will continue to detect other signals. The factory setting is Spectre 1 Detect off.

Spectre 1 Audio Mode

When **Spectre 1 Audio** mode is on, alerts will be sounded as well as being displayed on the screen. This setting is only available if Spectre 1 Alert is on. The factory setting is Spectre 1 Audio off.

Safety Alert

When **Safety Alert** mode is on, Safety Alert radar signals will be detected and an alert will be given. During the alert, the unit will continue to detect other signals. The factory setting is Safety Alert on.

Detection

Signals Detected

The tables on the following pages show the types of **Signals** your detector will detect, as well as the visual alerts it provides for each of them.

Audio Alerts

A distinctly different **Alert** tone is used for each type of signal detected (including separate tones for each laser signal). For X, K, Ka and Ku band radar signals, the tones will repeat faster as you approach the signal source. The repeat rate of the tones gives you useful information about the signal detected. See responding to alerts on page 25.

Visual Display

An indication of the type of signal detected will appear in the OLED Data Display. During X, K, Ka and Ku alerts, you will also see the numbers from one to five, indicating the strength of the signal detected.

Signal Strength Chart

Signal Strength = 1

(Weakest Signal)

Signal Strength = 2

Signal Strength = 3

Signal Strength = 4

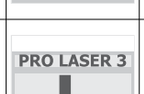
Signal Strength = 5

(Strongest Signal)

Radar Signals and Visual Displays

Type of Signal	Visual Display	Voice
X Band Radar		**X Alert**
K Band Radar		**K Alert**
Ka Band Radar		**Ka Alert**
Ku Band Radar		**Ku Alert**
Pop Radar Mode		**Pop Alert**

Laser Signals and Visual Displays

Type of Signal	Visual Display	Voice
LTI 20-20*		**Laser Alert**
LTI Ultra-Lyte*		**Laser Alert**
Kustom Signals ProLaser*		**Laser Alert**
Kustom Signals ProLaser III*		**Laser Alert**

* Your detector provides 360° detection of these signals.

NOTE
Beep rate changes with different laser alerts.

Strobe Alert Signals and Visual Displays

Type of Signal	Visual Display	Voice
3M Opticom or Tomar*		**Emergency Vehicle Approaching**

* Your detector provides 360° detection of these signals.

Safety Alert Signals and Visual Displays

Type of Signal	Visual Display	Voice
Emergency Vehicles	EMERGENCY EV	**Emergency Vehicle Approaching**
Road Hazards	ROAD HAZARD RH	**Road Hazard Ahead**
Trains	RAILROAD RR	**Train Approaching**

NOTE
There are different tones for each Safety Alert.

VG-2 and Spectre 1 Alert Signals and Visual Displays

Type of Signal	Visual Display	Voice
VG-2 Alert	RADAR VG2	**VG-2 Alert**
Spectre 1	RADAR SP1	**Spectre Alert**

NOTE
There are different tones for each alert.

Instant-On Detection

Your detector is designed to detect **Instant-On** speed monitoring signals, which can suddenly appear at full strength.

NOTE
You should take appropriate action immediately whenever an instant-on alert is given.

Pop Detection

Your detector is designed to detect single pulse mode radars. These radars are designed to have a low probability of detection. You should note that these radar guns have a much shorter range while in this mode.

Responding to Alerts

Description	Interpretation	Recommended Response
Tone repeats slowly at first, then speeds up rapidly.	Probably police radar.	FULL ALERT
Tone sounds one time only.	Probably a false alarm, but possibly pulsed radar, Spectre 1 or VG-2 nearby.	Exercise caution
Tone instantly begins repeating rapidly.	Radar, Spectre 1 or VG-2 nearby has been activated suddenly.	FULL ALERT
Pop mode tone.	Pop mode gun very close.	FULL ALERT
Tone repeats slowly as you approach a hill or bridge, then speeds up sharply as you reach it.	Probably police radar beyond the hill or bridge.	FULL ALERT
Tone repeats slowly for a short period.	Probably a false alarm.	Exercise caution
Any type of laser alert.	Laser alerts are never false alarms.	FULL ALERT
Any Safety Alert or Strobe Alert.	You are nearing an emergency vehicle, railroad crossing, or road hazard (construction, accident, etc.).	Exercise caution

Understanding Radar and Laser

Radar Speed Monitoring Systems

Three band frequencies have been approved by the Federal Communications Commission (FCC) for use by speed monitoring radar equipment:

X band	10.525 GHz
K band	24.150 GHz
Ka band	33.400 – 36.00 GHz

Your detector detects signals in all three radar bands, plus Ku band (13.435 GHz), which is an approved frequency used in parts of Europe and Asia.

VG-2 and Spectre 1

VG-2 and **Spectre 1** are "detector detectors" that work by detecting low-level signals emitted by most radar detectors. Your detector does not emit signals that can be detected by VG-2 or Spectre 1, but does detect VG-2 and Spectre 1 signals and will alert you when a device is in use near your vehicle, if you so choose.

Safety Alert Traffic Warning System

FCC-approved **Safety Alert** transmitters emit microwave radar signals that indicate the presence of a safety-related concern. Depending on the frequency of the signal emitted, it can indicate a speeding emergency vehicle or train, or a stationary road hazard.

Because these microwave signals are within the K band frequency, most conventional radar detectors will detect Safety Alert signals as standard K band radar. Your detector, however, is designed to differentiate between standard K band and Safety Alert signals, and give separate alerts for each.

Safety Alert technology is relatively new. Safety Alert transmitters can be found in limited numbers in all 50 states, but the number is growing. Depending on your location, you may not receive these alerts regularly and may often encounter emergency vehicles, trains and road hazards without being alerted. As the number of transmitters increases, these alerts will become more common.

When you receive such an alert, please watch for emergency vehicles ahead of you, on cross streets and behind you. If you see an emergency vehicle approaching, please pull over to the right side of the road and allow it to pass.

Your Detector Understanding Radar and Laser

Strobe Alert

Special strobes mounted on the light bars of authorized emergency vehicles (fire trucks, police cars, ambulances) automatically change traffic signals as the vehicle approaches an intersection. These strobes and the special strobe detectors located on the traffic signals, introduced fairly recently by 3M and Tomar, are already in use in more than 1000 cities nationwide. Cobra's exclusive **Strobe Alert** detector will detect these special strobes and give an emergency vehicle alert.

When you receive such an alert, please watch for an approaching emergency vehicle and pull over to allow it to pass. To inquire about coverage in your area, contact your local fire and police departments.

LIDAR (Laser)

The correct name for the technology that most people refer to as laser is actually **LIDAR**, which stands for Light Detection and Ranging.

LIDAR operates much like radar. Its signal spreads out like a radar signal, though not as widely. Unlike radar, LIDAR must have a clear line of sight to its target vehicle throughout the entire measurement interval. Obstructions such as sign posts, utility poles, tree branches, etc., will prevent valid speed measurement.

Some common questions about LIDAR include:

- **Does weather have any affect on LIDAR?**
  Yes. Rain, snow, smoke, fog, or airborne dust particles will reduce the effective range of LIDAR and can, if dense enough, prevent its operation.
- **Can LIDAR operate through glass?**
  Yes. Newer LIDAR guns can obtain readings through most types of glass. However, the laser pulse also can be received through glass to trigger an alarm by your detector.
- **Can LIDAR operate while in motion?**
  No. Because LIDAR operates by line of sight, the person using it cannot drive the vehicle, aim and operate the gun all at the same time.
- **Is LIDAR legal to use?**
  Yes. It is legal in all 50 states.

Pop Radar Guns

The Pop mode **Radar Gun** is a single pulse Doppler radar that is a feature of a K and Ka (Bee III Ka radar gun) band Instant-On radar gun. It uses a single short time pulse to measure the target vehicle's speed. Despite the fact that the short, single pulse makes the unit very sensitive to officer hand and vehicle movement and reduces the range of the gun in Pop mode to 50% of its range in Continuous Wave mode, this feature is added in an attempt to make the radar gun invisible to Radar Detectors.

Although your detector can sense Pop signals beyond the effective range of Pop radar guns, there will be a signal to sense only if a gun is triggered. In addition, the Pop mode receiver section is more prone to false alerts because of its extra sensitivity. This is especially so in urban areas. As a result, you should consider using the Pop Detect mode only in highway and rural situations. Cobra Electronics has included a user selectable on or off Pop Detect mode.

Maintenance

Maintenance of Your Radar Detector

Your detector is designed and built to give you years of trouble-free performance without the need for service. No routine **Maintenance** is required.

If your unit does not appear to be operating properly, please follow these troubleshooting steps:

- Make sure the power cord is properly connected.
- Make sure the socket of your vehicle's cigarette lighter is clean and free of corrosion.
- Make sure the power cord's cigarette lighter adapter is firmly seated in your cigarette lighter.
- Check the power cord fuse. (Unscrew the ribbed end cap of the cigarette lighter adapter and examine the fuse. If required, replace it with a 2-amp fuse only.)

Specifications

Band and Frequencies

Band	Frequencies		
X Band	10.525	± 0.050	GHz
K Band	24.125	± 0.125	GHz
Safety Alert	24.070	± 0.010	GHz
Traffic Warning System	24.110	± 0.010	GHz
	24.190	± 0.010	GHz
	24.230	± 0.010	GHz
Ka Band	34.700	± 1.300	GHz
Ku Band	13.435	± 0.050	GHz
VG-2	11.500	± 0.250	GHz
Spectre 1	13.300	± 0.200	GHz
Laser	910	± 50	nm
Strobe	700	± 300	nm

This radar detector is covered by one or more of the following U.S. patents: 5,497,148; 5,594,432; 5,612,685; 6,078,279; 6,094,148; 6,621,447. Additional patents may be listed inside the product or pending.

Warranty

Limited 1-Year Warranty

For Products Purchased in the U.S.A.

Cobra Electronics Corporation warrants that its Cobra 12 Band Radar/Laser Detectors, and the component parts thereof, will be free of defects in workmanship and materials for period of one year from the date of first consumer purchase. This warranty may be enforced by the first consumer purchaser, provided that the product is utilized within the U.S.A.

Cobra will, without charge, repair or replace, at its option, defective 12 Band Radar/Laser Detectors, products or component parts upon delivery to the Cobra Factory Service Department, accompanied by proof of the date of first consumer purchase, such as a duplicated copy of a sales receipt.

You must pay any initial shipping charges required to ship the product for warranty service, but the return charges will be at Cobra's expense, if the product is repaired or replaced under warranty.

This warranty gives you specific rights, and you may also have other rights which vary from state to state.

Exclusions: This limited warranty does not apply:

1. To any product damaged by accident.

2. In the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs.

3. If the serial number has been altered, defaced or removed.

4. If the owner of the product resides outside the U.S.A.

All implied warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty.

Cobra shall not be liable for any incidental, consequential or other damages; including, without limitation, damages resulting from loss of use or cost of installation.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

Product Service

Product Service

For any questions about operating or installing this new Cobra product, or if parts are missing…**PLEASE CALL COBRA FIRST…**do not return this product to the store. See customer assistance on page A1.

If this product should require factory service, please call Cobra before sending the product. This will ensure the fastest turn-around time on any repair. If Cobra asks that the product be sent to its factory, the following must be furnished to have the product serviced and returned:

1. For Warranty Repair include some form of proof-of-purchase, such as a mechanical reproduction or carbon of a sales receipt. Make sure the date of purchase and product model number are clearly readable. If the originals are sent, they cannot be returned;

2. Send the entire product;

3. Enclose a description of what is happening with the product. Include a typed or clearly printed name and address of where the product is to be returned, with phone number (required for shipment).

4. Pack product securely to prevent damage in transit. If possible, use the original packing material;

5. Ship prepaid and insured by way of a traceable carrier such as United Parcel Service (UPS) or Priority Mail to avoid loss in transit to:

Cobra Factory Service
Cobra Electronics Corporation
6500 West Cortland Street
Chicago, Illinois 60707 U.S.A.;

6. If the product is in warranty, upon receipt of the product it will either be repaired or exchanged depending on the model. Please allow approximately 3 – 4 weeks before contacting Cobra for status. If the product is out of warranty, a letter will automatically be sent with information as to the repair charge or replacement charge.

For any questions, please call 773-889-3087 for assistance.

Trademark Acknowledgement

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Optional Accessories

You can find quality Cobra products and accessories at your local Cobra dealer, or in the U.S.A., you can order directly from Cobra. See order info on page 37.

Straight 12V DC Power Cord

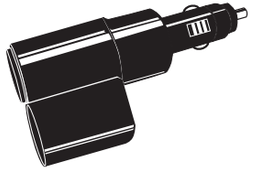
Includes plug and fuse
Item # 420-030-N-001

Windshield Mounting Bracket

Includes suction cups
Item # 545-159-N-001

Coiled 12V DC Power Cord

Includes plug and fuse
Item # 420-026-N-001



Dual Port Power Adapter

Includes adjustable plug (up to 90˚) and fuse
Item # CLP-2B

Appendix

User Programming Menu Guide

Mode	Tone	Visual Display	Voice
Set City mode default Page 14	Two beeps	CITY MODE X ONLY	City X
	One beep	CITY MODE X + K	City X, K
	One beep	CITY MODE NO BEEP	City X Beep Off
Set IntelliMute mode Page 15	Two beeps	INTELLIMUTE OFF	Intelli Mute Off
	One beep	INTELLIMUTE ON	Intelli Mute On
Set IntelliMute setup* Page 15	Two beeps	INTELLIMUTE SETUP Press To Begin	Set Engine Revs
Set AutoMute mode Page 16	Two beeps	AUTO MUTE ON	Auto Mute On
	One beep	AUTO MUTE OFF	Auto Mute Off
Set Voice or Tone mode Page 16	None	ALERT TYPE VOICE	Voice Alert
	None	ALERT TYPE TONE	Tone Alert
Set Compass mode Page 17	Two beeps	SHOW COMPASS OFF	Compass Off
	One beep	SHOW COMPASS ON	Compass On
Set Compass** Page 17	Two beeps	CALIBRATE COMPASS Press Drive 2 circles.	Set Compass

* Not shown if IntelliMute is off. Complete instructions for IntelliMute setup are shown on the referenced page.

** Not shown if Compass is off. Complete instructions for calibrating the Compass are shown on the referenced page and on the separate insert.

NOTE
Factory defaults are highlighted in light gray. See referenced pages for more information on the modes.

Appendix

User Programming Menu Guide (continued)

Mode	Tone	Visual Display	Voice
Set Smart-Power mode Page 18	Two beeps	SMART POWER ON	Smart Power On
	One beep	SMART POWER OFF	Smart Power Off
Set Display Timeout Interval Page 18	One beep	DISPLAY TIMEOUT 15 SEC	None
	One beep	15 SECONDS	None
	One beep	SECONDS	None
	One beep	ONE MINUTE	None
	One beep	THREE MINUTES	None
	One beep	ALWAYS ON	None
Set Display Dim mode default Page 18	One beep	DISPLAY DIMMER	Dimmer
	One beep	DISPLAY DARK	Dark
Set customizable display colors*** Page 18	Two beeps	COLOR THEME MULTI	Multi
	One beep	COLOR THEME	Red Blue Orange Green
Set car battery voltage display mode Page 19	Two beeps	CAR VOLTAGE 13.9v OFF	Display Car Voltage Off
	One beep	CAR VOLTAGE 13.9v ON	Display Car Voltage On
Set battery low car voltage warning Page 19	Two beeps	WARN LOW CAR VOLTAGE OFF	Car Voltage Warning Off
	One beep	WARN LOW CAR VOLTAGE ON	Car Voltage Warning On
Restore factory settings Page 19	Two beeps	RESTORE FACTORY SETTINGS	Restore Factory Settings

*** Press **Dim** ◀ repeatedly for all optional colors.

NOTE
Factory defaults are highlighted in light gray. See referenced pages for more information on the modes.

Appendix

Alert Programming Menu Guide

Mode	Tone	Visual Display	Voice
Set Pop Detect mode Page 20	Two beeps	POP DETECTION OFF	**Pop Off**
	One beep	POP DETECTION ON	**Pop On**
Set X Band Detect mode Page 20	Two beeps	X BAND DETECTION ON	**X On**
	One beep	X BAND DETECTION OFF	**X Off**
Set K band detect mode Page 20	Two beeps	K BAND DETECTION ON	**K On**
	One beep	K BAND DETECTION OFF	**K Off**
Set Ku Band Detect mode Page 20	Two beeps	Ku BAND DETECTION ON	**Ku On**
	One beep	Ku BAND DETECTION OFF	**Ku Off**
Set VG-2 Detect mode Page 20	Two beeps	VG-2 DETECTION ON	**VG-2 On**
	One beep	VG-2 DETECTION OFF	**VG-2 Off**

Mode	Tone	Visual Display	Voice
Set VG-2 Audio mode* Page 20	Two beeps	VG-2 Audio ON	**VG-2 Audio On**
	One beep	VG-2 Audio OFF	**VG-2 Audio Off**
Set Spectre 1 Detect mode Page 20	Two beeps	SPECTRE 1 DETECTION ON	**Spectre On**
	One beep	SPECTRE 1 DETECTION OFF	**Spectre Off**
Set Spectre 1 Audio mode** Page 21	Two beeps	SPECTRE 1 AUDIO ON	**Spectre Audio On**
	One beep	SPECTRE 1 AUDIO OFF	**Spectre Audio Off**
Set Safety Alert mode Page 21	Two beeps	SAFETY ALERT ON	**Safety Alert On**
	One beep	SAFETY ALERT OFF	**Safety Alert Off**

* Not shown if VG-2 Detect is off.

** Not shown if Spectre 1 Detect is off.

NOTE
Factory defaults are highlighted in light gray. See referenced pages for more information on the modes.